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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/490,742	01/25/2000	Herbert L Ko	10991610-1	7578

22878 7590 07/11/2003

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EXAMINER

QURESHI, AFSAR M

ART UNIT	PAPER NUMBER
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2667

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DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/490,742

Applicant(s)

KO, HERBERT L

Examiner

Afsar M Qureshi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-24 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because informal drawings are submitted with the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiller (US 4,759,078) in view of Brady et al. (US 6,442,374).

Claims 1-4. Schiller discloses a frequency locking system wherein receiver 10 and 20 receiving the signals, deriving first frequency correction signal from the receiver and shifting the frequency using the correction signal [**claim 1**], the offset corresponds to the difference between the frequency of the signal received and the center frequency (46.1-46.0 MHz) [**claim 2**] in a full duplex two-way communication by downconverting the received signal to an Intermediate frequency (IF) [**claim 3**] (see col. 2, lines 62 through col. 3, lines 1-62 also see figure 2 for receiver and transmitter).

Schiller does not disclose the limitation '*filtering the offset from the baseband demodulator*', however Brady et al. ('Brady' hereinafter) disclose a similar system of providing a full duplex communication utilizing demodulator 310 (see col. 8, lines 36-57, also figure 3).

As to **claim 4**, Brady discloses that the frequencies are in the range of 60 GHz (see col. 8, lines 44-49).

Therefore it would have been obvious to one skilled in the art, at the time of invention, to be able to modify the receiver, disclosed by Schiller, by incorporating a demodulator in order to retrieve an electrical signal from the carrier signal and output the sum and differences of the frequencies from receiver. A desire for modification is given in col. 2, lines 44-61 – Schiller).

Claims 5-7. Schiller discloses that the signals are propagated via antennas and by wires (see figures 1 and 2). Neither of the cited references discloses an optical fiber, as in claim 7, however, in order to broaden the applicability of wireless communications to technologies, it is desirable that optical fiber can be utilized (Examiner takes Official Notice).

Claim 8. All the limitations are discussed in the rejection of claim 1 above. In addition, Schiller discloses frequency controller block 31 and 41 (figure 3) providing control line to oscillator (see col. 4, lines 9-31).

Claim 9. See rejection of claim 4.

Claim 10. As discussed in the rejection of claim 1, above, Schiller discloses that both units tuned to two different frequencies (46.0 MHz and 46.1 MHz) (see col. 2, lines 63-67).

Claims 11-13. Already discussed in the rejection of claims 2 and 3 above.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schiller and Brady as applied to claim 1 above, and further in view of Soleimani et al. (US 5,995,812).

Schiller and Brady do not specifically disclose utilizing a frequency comparator, as claimed herein. However, Soleimani et al. ('Soleimani' hereinafter) disclose utilizing frequency comparator for the purpose claimed herein. Soleimani discloses frequency comparator 20 (see figure 2) that compares the phase of the modulated signal to the output and produces a phase offset signal (see col. 4, lines 6-22).

Therefore it would have been obvious to one of skill in the art, at the time of invention, to be able to modify the receiver of Schiller to incorporate a frequency comparator because it produces a phase offset signal. Motivation and need to combine these inventions is the same as described in the rejection of claim 1 above.

Allowable Subject Matter

5. Claims 15-24 are allowed over prior art.
6. The following is a statement of reasons for the indication of allowable subject matter:

Prior art of the record fails to disclose a "second control means responding to the offset sensed by the first receiver, and correcting the frequency of the second transmitter accordingly".

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bruckert et al. (US 5,640,431) disclose a method for offset frequency estimation. The offset frequency estimator filters the reference information and outputs a filtered reference sequence.

Lipowski et al. (US 5,526,527) disclose a method for generating an output signal of desired frequency in response to a control signal.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M Qureshi whose telephone number is (703) 308 8542. The examiner can normally be reached on Compressed (9 Hrs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PHAM CHI can be reached on (703) 305 4378. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 308 6306 for regular communications and (703) 872 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305 4700.



Afsar M Qureshi
Examiner
Art Unit 2667

July 8, 2003